

AMENDMENTS TO THE CLAIMS

1. (original) A method for identifying a test agent as reducing the level of differentiation of T cells into Th1 cells comprising reducing MEKK1 catalytic activity in said T cells.

2. (original) The method of Claim 1, wherein reducing of said MEKK1 catalytic activity comprises increasing the level of differentiation of said T cells into Th2 cells.

3. (original) The method of Claim 1, wherein the reducing of said MEKK1 catalytic activity comprises increasing the level of one or more Th2 cell cytokine that is produced by said T cells.

4. (original) The method of Claim 3, wherein the increased level of said Th2 cytokine occurs in the absence of an increase in the level of one or more Th1 cytokine.

5. (original) The method of Claim 4, wherein said Th1 cytokine is chosen from one or more of interferon-gamma and Interleukin-2.

6. (original) The method of Claim 3, wherein said Th2 cytokine is chosen from one or more of Interleukin-4, Interleukin-5, Interleukin-10, and Interleukin-13.

7. (original) The method of Claim 3, wherein said increasing the level of said Th2 cell cytokine comprises increasing the level of mRNA encoding said Th2 cytokine.

8. (original) The method of Claim 7, wherein said mRNA encoding said Th2 cytokine is increased 5 fold.

9. (original) The method of Claim 3, wherein said reducing of said MEKK1 catalytic activity comprises increasing the level of proliferation of Th2 cells that differentiate from said T cells.

10. (original) The method of Claim 3, wherein said reducing of said MEKK1 catalytic activity comprises introducing a mutation in the gene encoding MEKK1.

11. (original) The methods of Claim 3, wherein said T cells comprise thymocyte cells.

12. (original) The methods of Claim 3, wherein said T cells comprise splenocyte cells.

13. (original) The methods of Claim 3, wherein said T cells are *in vitro*.

14. (original) The methods of Claim 13, wherein said T cells are *in vivo* in an animal.

15. (original) The methods of Claim 14, wherein said animal is human.

16. (original) The method of Claim 15, wherein said human is chosen from one or more of a human that is:

- (a) suspected of having a Th1-mediated disease;
- (b) not suspected of having a Th1-mediated disease;
- (c) suspected of being capable of developing a Th1-mediated disease; and
- (d) suspected of not being capable of developing a Th1-mediated disease.

17. (original) The methods of Claim 16, wherein said Th1-mediated disease is chosen from multiple sclerosis, type 1 diabetes, autoimmune thyroiditis, and rheumatoid arthritis.

18-19. (canceled).

20. (original) A method for increasing Th2 cytokine levels produced by T cells, comprising:

- (a) providing:
 - (i) an inhibitor of ITCH;
 - (ii) T cells; and
 - (iii) test agent; and
- (b) contacting said T cells in the presence of said test agent to produce contacted T cells and in the absence of said test agent to produce control T cells; and
- (c) detecting reduced activity of ITCH in said contacted T cells compared to ITCH in said control T cells, wherein said detecting identifies said test agent as increasing Th2 cytokine levels produced by T cells.

21. (original) A method for increasing Th2 cytokine levels produced by T cells, comprising:

- (a) providing:
 - (i) a kinase inhibitor, wherein said kinase is one or more of MEKK1 and JNK1;
 - (ii) T cells;
 - (iii) test agent; and
- (b) contacting said T cells in the presence of said test agent to produce contacted T cells and in the absence of said test agent to produce control T cells; and
- (c) detecting reduced activity of said kinase in said contacted T cells compared to said kinase in said control T cells, wherein said detecting identifies said test agent as increasing Th2 cytokine levels produced by T cells.

22. (currently amended) The ~~methods~~ method of Claim 20 ~~and Claim 21~~, further comprising, (d) identifying said test agent as increasing the level of ~~one or more of Th2~~ a Th2 cytokine.

23. (currently amended) The ~~methods~~ method of Claim 22, wherein said Th2 cytokine is one or more of Interleukin-4, Interleukin-5, Interleukin-10, and Interleukin-13.

24. (currently amended) The ~~methods~~ method of Claim 20 ~~and Claim 21~~, further comprising, (d) identifying said test agent as decreasing the level of Th1 cytokines a Th1 cytokine.

25. (original) The method of Claim 21, wherein said kinase inhibitor comprises SB600125.

26-63. (canceled).

64. (new) The method of Claim 21, further comprising, (d) identifying said test agent as increasing the level of a Th2 cytokine.

65. (new) The method of Claim 64, wherein said Th2 cytokine is one or more of Interleukin-4, Interleukin-5, Interleukin-10, and Interleukin-13.

66. (new) The method of Claim 21, further comprising, (d) identifying said test agent as decreasing the level of a Th1 cytokine.